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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/935,668      | 08/24/2001  | Yasushige Nakamura   | 011071              | 1050             |

38834 7590 04/07/2005

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EXAMINER

DOE, JANIS L

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1756

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/935,668

Applicant(s)

NAKAMURA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-11,13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-11,13 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/5/03; 10/1/04; 2/28/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. The examiner acknowledges the amendments filed on Dec. 28, 2004, to claims 1, 5, and 6. Claims 1, 3-7, 9-11, 13, and 14 are pending.

2. The reference US 4,539,284 listed on the form PTO-1449 filed on Dec. 5, 2003, was crossed-out by the examiner because the reference has already been considered and is listed on the form PTO 1449 filed on Aug. 24, 2001.

The document "Copy of JP Office Action dated November 18, 2003" listed on the form PTO-1449 filed on Dec. 5, 2003, was crossed-out by the examiner. The document was in the Japanese language. The information disclosure statement filed on Dec. 5, 2003, failed to comply with 37 CFR 1.98(a)(3) because it did not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information of the document listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

3. The rejections of claims 5 and 6 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on

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Jul. 28, 2004, paragraph 5, have been withdrawn in response to the amendments filed on Dec. 28, 2004, to claims 5 and 6.

The rejection of claim 6 under 35 U.S.C. 101 set forth in the office action mailed on Dec. 28, 2004, paragraph 7, has been withdrawn in response to the amendment filed on Dec. 28, 2004, to claim 6.

4. Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants are required to cancel the claim, or amend the claim to place the claim(s) in proper dependent form, or rewrite the claim in independent form.

Claim 6 is drawn to the imaging color toner according to claim 1. In other words, claim 6 is drawn to a composition, not to a process. The limitation "wherein the toner is used in an electrophotographic imaging process, wherein said process includes the step of forming an image with an electrophotographic imaging apparatus" is merely a statement of intended use, which does not further limit the composition recited in instant claim 1.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 3-7, 9-11, 13, and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 7, and 11, and claims dependent thereon, recite a polyester resin comprising a "second polyester resin being a polymerization product of polyoxypropylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane, polyoxyethylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane and terephthalic acid in the absence of a crosslinking component."

The originally filed specification does not provide an adequate written description of the second polyester resin recited in the instant claims. Throughout the originally filed specification, the specification discloses only a second non-linear polyester resin having a Tsp of not lower than 80°C and lower than 110°C. See the originally filed specification,

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page 4, line 36, to page 5, line 1; page 8, lines 11-16 and 24-31; and page 10, lines 8-10. The term "linear polymer" is usually defined as polymers that are not branched, cross-linked, or of a network structure. See Polymer Technology Dictionary, page 225. In light of the definition of the term "linear polymer," the term "non-linear polymer" thus refers to polymers that are branched, cross-linked, or of a network structure. There is no disclosure in the originally filed specification that the second non-linear polyester is a polymerization product obtained "in the absence of a crosslinking component" as recited in the instant claims. The originally filed specification in Table 1 at page 24, discloses only two particular polyester resins, 2-2 and 2-3, that meet the softening point Tsp and acid value requirements recited in claims 1, 7, and 11. (Polyester resin 2-4 has a Tsp of 110°C and an acid value of 19.6. The Tsp of 110°C is within the Tsp range of "between about 80°C and about 110°C" recited in instant claim 1. However, the originally filed specification does not provide an adequate written description of said Tsp range for the reasons discussed in paragraph 7, infra.) Both resins are obtained by reacting polyoxypropylene (2.2)-2,2-bis(4-hydroxyphenyl)propane and polyoxyethylene (2.2)-2,2-bis(4-hydroxyphenyl)propane in a 1:1 molar ratio, with terephthalic acid.

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Resins 2-2 and 2-3 also have a Tsp of 80°C and 100°C, respectively, and an acid value of 7.5 and 10.6, respectively. The second polyester resin recited in instant claims 1, 7, and 11 is not limited to the narrower disclosed resins 2-2 and 2-3, because the "second polyester resin" includes polyester resins that are not related to resins 2-2 and 2-3, such as, for example, polyesters that are obtained by other monomers not present in the two particular disclosed resins, or polyesters that do not have a Tsp of 80 or 100°C, the Tsp value of resins 2-2 and 2-3, respectively.

Applicants' arguments filed on Dec. 28, 2004, have been fully considered but they are not persuasive.

Applicants assert that the specification supports the phrase "in the absence of a crosslinking component" recited in the instant claims. Applicants assert that Polyesters A through P in Table 4, which comprise a second polyester selected from Polyesters 2-1 to 2-5, none of which include a crosslinking agent, combined with the Inventor's Declaration filed on Aug. 11, 2003, provides strong evidence that the term "non-linear" used in the specification when referring to the second polyester is a typographic error.

However, as discussed in the office action mailed on Jan. 12, 2004, the Rule 132 declaration, which was executed by

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Masatoshi Kimura on Aug. 5, 2003, filed on Aug. 11, 2003, is merely conclusory. For the reasons discussed in the office action mailed on Jan. 12, 2004, which are substantially repeated infra, the evidence on the present record does not support the statements made by declarant.

(1) Contrary to declarant, the context of the disclosure regarding the "logical incongruity between the first, nonlinear, polyester and the second, non-linear polyester" does not lead a person having ordinary skill in the art to recognize that the disclosed second non-linear polyester is an obvious error, and that the second polyester should have been identified as a non-crosslinked polyester resin as recited in the instant claims. The originally filed specification only discloses a polyester resin comprising a first non-linear polyester resin and a second non-linear polyester resin having a Tsp of not lower than 80°C and lower than 110°C. There is no disclosure that the second polyester resin is a linear polyester resin or that it is a non-crosslinked polyester as recited in the instant claims. For example, the specification at page 8, lines 6-8 and 11-13, discloses that the first non-linear polyester resin has a softening point Tsp of not lower than 120°C and lower than 170°C and the second non-linear polyester resin has a Tsp of not lower



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than 80°C to lower than 110°C. The specification at page 8, lines 17-23 and 26-31, further discloses that when the first and second polyester resins have a Tsp outside the above ranges, "low energy fixability" is lowered or "void resistance" is lowered. The specification at page 10, lines 3-11, of the specification, discloses that "the first polyester resin is a non-linear polyester resin containing a tri- or polyvalent monomer, and also has a comparatively high molecular weight, and thus exhibits excellent void resistance, but is not easily fixed by means of low light emission energy." The specification further discloses that "[o]n the other hand, the second polyester resin is a non-linear polyester resin and can have excellent low energy fixability. However, the second polyester resin is inferior in void resistance because of its low viscosity" (emphasis added). The specification at page 10, lines 15-20, discloses that "when using the first and second polyester resins in combination . . . the synergy effect of merits of the first and second polyester resins can achieve excellent flash fixability without causing voids."

Declarant has not indicated what disclosed property or properties of the second non-linear polyester resin in the disclosure of the instant specification would have led a person having ordinary skill in the art to recognize clearly that the

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disclosed second polyester resin could only have been identified as a "linear" or non-crosslinked polyester resin. Cross-linked polyester resins having a Tsp within the range of not lower than 80°C and lower than 110°C, (i.e., 95 or 100°C) and "no chloroform insolubles" are known in the toner art. See US 4,863,824 (Uchida), for example, Tables 1 and 2, polyester nos. 1-2b, 2-1, 2-2a, and 2-3. Uchida discloses that said non-linear polyester resins having a low content of trivalent or higher valency monomers, but which have a low molecular weight, ensure "ease of toner image fixing at low temperatures." Col. 3, lines 19-25. Thus, contrary to declarant, the second polyester resin could have been a non-linear polyester resin.

(2) Contrary to declarant and to applicants, not all of the five second polyester resins 2-1 to 2-5 are within the scope of the second polyester resin recited in the instant claims. The second resins 2-1 and 2-5 are outside the scope of instant claims 1, 7, and 11, because they have acid numbers of 3.5 and 30.5, respectively, which are outside the range of "5 to 20" recited in instant claims 1, 7, and 11. The second resins 2-1 and 2-5 have Tsp's of 70 and 120°C, respectively, which are outside the range of "not lower than 80°C and lower than 110°C" recited in claims 7 and 11, and outside the range of "between

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about 80°C and about 110°C" recited instant claim 1. The second resin 2-4 is outside the scope of instant claim 7 and 11, because it has a Tsp of 110°C, which is outside the range of "not lower than 80°C and lower than 110°C" recited in claims 7 and 11. The Tsp of the second resin 2-4 is within the Tsp range of "between about 80°C and about 110°C" recited in instant claim 1. However, the originally filed specification does not provide an adequate written description of said Tsp range for the reasons discussed in paragraph 7, infra. As discussed in the rejection supra, the two narrow exemplified species of non-crosslinked polyester resins, 2-2 and 2-3, do not provide an adequate written description of said broad second non-crosslinked polyester resin recited in instant claims 1, 7, and 11. A person having ordinary skill in the art would not of necessity have recognized that the two narrow exemplified species are representative of the entire scope of the broad second non-crosslinked polyester resin recited in the instant claims.

(3) As discussed in the rejection supra, the originally filed specification only refers to the second polyester as a "non-linear" polyester resin having a Tsp of not lower than 80°C and lower than 110°C. There is no disclosure of a second non-crosslinked polyester resin as broadly recited in instant

claims 1, 7, and 11. Nor is there any disclosure that the disclosed second non-linear polyester is not cross-linked.

Furthermore, the priority document is not part of the originally filed specification. The originally filed specification was not filed in the non-English language (37 CFR 1.52(d)), nor did it explicitly incorporate said priority document by reference. Applicants may not rely on the disclosure of the unincorporated foreign priority document to provide the missing antecedent basis for the second linear polyester broadly recited in the instant claims. See Ex parte Bondiou, 132 USPQ 356 (Bd. App. 1961). The application must be complete when filed.

Moreover, the second polyester resin is described as a non-linear polyester throughout the translation of the priority document, but for page 12, lines 10-12, of the translation, i.e., paragraph 0021 of the priority document. See the translation, page 1, line 17, page 2, lines 15-16, page 3, lines 6-7, page 7, lines 8-9, page 10, lines 10 and 22-23, page 38, lines 17-18, page 40, lines 1-2, and page 41, lines 9-10. Thus, contrary to declarant's comments, it is the one instance, i.e., paragraph 0021, in the translation, that the second polyester resin is linear that would appear to be in error.

Accordingly, for the reasons discussed above, the rejection stands.

Applicants further state that they disagree with the "Examiner's assertion that the claimed second polyester is not limited to the narrower disclosed resins 2-2 and 2-3, because such a claimed resin may include resins such as 'polyesters that are obtained by other monomers not present in the resins 2-2 and 2-3 . . .', or polyesters that do not have a Tsp of between 80 and 110." Applicants submit that the claimed second polyester recited in instant claim 1 "can not read on a compound that did not arise from the above monomers and having the above-noted Tsp and acid value" recited in instant claim 1.

Applicants have misquoted the examiner's statement in the first paragraph rejection set forth in the office action mailed on Jul. 28, 2004, paragraph 9. The examiner did not state that the second polyester recited in the instant claims includes "polyesters that do not have a Tsp of between 80 and 100" as asserted by applicants. Rather, the examiner stated that "[t]he second polyester resin recited in instant claims 1, 7, and 11 is not limited to the narrower disclosed resins 2-2 and 2-3, because it includes polyester resins; that are not related to resins 2-2 and 2-3, such as, for example, polyesters that are obtained by other monomers not present in the two particular

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disclosed resins, or polyesters that do not have a Tsp of 80 or 100°C, the Tsp value of resins 2-2 and 2-3, respectively" (emphasis added).

Furthermore, applicants' submission that the second polyester recited in instant claim 1 "can not read on a compound that did not arise from the above monomers and having the above-noted Tsp and acid value" recited in instant claim 1 is mere attorney argument that is not supported by any factual evidence on the present record. The originally filed specification discloses that the acid component used to obtain the second polyester resin is not limited to terephthalic acid. The specification discloses that terephthalic acid is the preferred acid component and can be used in combination with other acid components disclosed at page 11, lines 5-16, such as fumaric acid and adipic acid. See the originally filed specification at page 10, line 32, to page 11, line 16. The originally filed specification at page 12, lines 21-30, discloses that other alcohol components can be used in combination with the alkylene oxide adduct of bisphenol A, such as ethylene diol. Polyester resins having a Tsp within the range of not lower than 80°C and lower than 110°C and an acid value of 5-20, which are obtained from the monomers recited in instant claims 1, 7, and 11 and other monomers not recited in instant claims 1, 7, and 11, are

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known in the toner art. See US 5,756,244 (Omatsu), which is listed on the form PTO-1449 filed on Aug. 24, 2001, for example, Resin Production Example 3 at col. 13. The Omatsu polyester resin in example 3 is obtained by polymerizing polyoxypropylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane, polyoxyethylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane, terephthalic acid, fumaric acid, and adipic acid, in the absence of a cross-linking component. The Omatsu polyester resin has an acid value of 15.8 KOH mg/g and a Tsp of 104.9°C. The claim language "second polyester resin being a polymerized product of polyoxypropylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane, polyoxyethylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane and terephthalic acid in the absence of a crosslinking component" recited in instant claims 1, 7, and 11 does not exclude the presence of other acid components and alcohol components that the originally filed specification teaches can be used to obtain the second polyester resin having the acid value and Tsp value recited in the instant claims.

7. Claims 1 and 3-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Instant claim 1 and claims dependent on claim 1 recite that the second polyester resin has a softening point Tsp of "between about 80°C and about 110°C."

The originally filed specification does not provide an adequate written description of the second polyester resin recited in the instant claims. Throughout the originally filed specification, the specification discloses only a second non-linear polyester resin having a Tsp of "not lower than 80°C and lower than 110°C." See the originally filed specification, page 4, line 36, to page 5, line 1; and page 8, lines 11-16 and 24-31. Moreover, the phrase "about 110°C" recited in instant claim 1 includes temperatures that are greater than 110°C. Similarly, the phrase "about 80°C" recited in instant claim 1 includes temperatures that are less than 80°C. The originally filed specification discloses the disadvantages of using a second polyester resin having a Tsp below 80°C or having a Tsp of 110°C or higher. The originally filed specification at page 8, lines 26-31, discloses that "[w]hen the softening point Tsp of the polyester resin is 110°C or higher, low energy fixability is



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lowered. On the other hand, when the softening point Tsp of the polyester resin is 80°C or lower, void resistance and blocking resistance are lowered." The Tsp range "between about 80°C and about 110°C" recited in instant claim 1 is broader than the originally disclosed Tsp range "not lower than 80°C and lower than 110°C" because it encompasses temperatures that are lower than 80°C and higher than 110°C.

8. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD

Mar. 28, 2005

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